

DISTINGUISHING FEATURES OF THE CLASS: This is routine surveying and engineering work involving inspection work, the use of surveying instruments and equipment. The work is normally performed under close supervision and is reviewed while in process. Incumbents are required to possess: writing skills for the preparation of reports and other assignment; drafting skills; capability to perform arithmetic computations involving geometry, trigonometry and algebra in the preparation of engineering calculations, cross sections, contours, vertical and horizontal curves; and computer skills in computer aided design drafting (CAD), word processing and spread sheet/tables etc., when not involved in field surveys.

TYPICAL WORK ACTIVITIES: *The typical work activities listed below, while providing representative examples of the variety of work assignments in the title, do not describe any individual position. Incumbents in this title may perform some or all of the following, as well as other related activities not described.*

Does manual and computer aided drafting (CAD) of all engineering work, prepares sketches, details, plans, sections, etc.;

Operates surveying and engineering instruments and equipment such as transits, levels, chains, rods, computers, soils and materials testing equipment ;

Performs a variety of manual work in connection with field surveys;

Makes routine office calculations in connection with the reduction and plotting of field notes of surveys;

Checks extensions of computations;

Performs drafting functions such as transferring level and cross section notes to plan and profile sheets, drawing in grade lines established by an engineer and completing the plans by inking

and lettering and transferring to base maps for record, the location of pipes, conduits, cables

or similar lines or structures as portrayed by a field sketch;

Performs drafting and tracing of property maps, and prepares map indexes;

Maintains surveying and other equipment;

Prepares both manually and computer aided spread sheets, tables and figures;

Performs engineering calculations

Assists in the preparation of specifications;

Assists in the preparation of budgets and various applications including all research associated with same;

Assists in the review of construction work in regard to meeting the requirements of the plans and/or specifications in the field and office;

Performs clerical work as required.

FULL PERFORMANCE KNOWLEDGES, SKILLS, ABILITIES, AND PERSONAL CHARAC-

TERISTICS: Working knowledge of the civil engineering field, computers, computer aided design (CAD) and survey work; ability to use mechanical drawing instruments, mathematical tables and to make geometric and trigonometric calculations; ability to interpret written and oral instructions accurately; ability to assume minor inspectional responsibility and assist in more extensive inspection responsibilities and duties; and manual skill and mechanical aptitude.

MINIMUM QUALIFICATIONS: Either:

- (A) Graduation from a regionally accredited college or university or one accredited by the New York State Board of Regents to grant degrees with an Associate's Degree in civil engineering or a closely related field including or supplemented by courses in drafting and computer aided design systems; or
- (B) Two years of experience in acceptable technical engineering and/or surveying work; or
- (C) An equivalent combination of training and experience as described above

Note: Successful completion of coursework in civil engineering or closely related field at a regionally accredited college or university or one accredited by the by the New York State Board of Regents to grant degrees, may be substituted for the required experience with three semester credit hours being equivalent to three months of experience.

Civil engineering is a branch of engineering dealing with design and construction of highways, bridges, waterworks, harbors, or other infrastructure projects. Candidates must demonstrate how a degree is related to civil engineering. Candidates must also show that course work included or was supplemented by courses in drafting and computer aided design systems.

Technical engineering experience is experience that involves planning, designing, and implementing projects on roads, bridges, buildings water or waste water projects, or other infrastructure projects. Technical engineering must demonstrate evidence related to knowledge of mathematical sciences and experience in working from plans or drawings, taking measurements and calculations, interpreting graphs or tables, and interpreting technical instructions or dimensional drawings. In addition to showing technical engineering experience, candidates must demonstrate drafting experience including plotting and drawing maps, plans, specifications, architectural drawings, or similar documents including computer aided design systems.

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Jurisdictional Class: Competitive
Public Hearing: N/A
NYS Civil Service Commission Approval: N/A

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